

REMARKS

The Examiner rejected claims 9-14 under 35 U.S.C. § 101 as not falling within one of the four statutory categories of invention; rejected claims 2 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Takao et al. (U.S. Patent No. 5,920,220) (hereinafter “Takao”) in view of the admitted prior art of the present application (hereinafter “the APA”); rejected claims 3 and 10 under 35 U.S.C. § 103(a) as being unpatentable over Takao in view of the APA and further in view of Touzni et al. (U.S. Patent No. 7,031,405) (hereinafter “Touzni”); objected to claims 4-7 as being dependent upon a rejected base claim.

Applicant amends claim 9.

Claims 2-7 and 9-14 are pending in the application.

Rejection of Claims 9-14 under 35 U.S.C. § 101

The Examiner rejected claims 9-14 under 35 U.S.C. § 101 as not falling within one of the four statutory categories of invention.

Applicant amends independent claim 9 by adding the words “on a receiver” to the preamble and moving the language “for a modulated signal representing symbols of information” from the preamble into the body of the claim as the following new step: “receiving a modulated signal representing symbols of information.” The new words “on a receiver” and “receiving” are supported by the specification at:

Page 1, lines 19-21: The modulated carrier signal received by a receiver is down-converted to an intermediate frequency and then demodulated . . . (emphasis added)

Page 7, lines 4-5: Fig. 15 is a block diagram view of a receiver for providing the half-symbol constellation display according to the present invention. (emphasis added)

Page 11, lines 1-3: Fig. 15 shows a typical receiver of a modulated signal as modified according to the present invention. The modulated signal is received at an antenna 10 and shifted in frequency by a down converter 12. (emphasis added)

In order to reflect the fact that the final step of claim 9 is “displaying pseudo-symbols . . . ,” Applicant further amends claim 9 by deleting the words “generating a” and adding the words “pseudo-symbols.”

Claim 9 as so amended is “tied to a particular machine or apparatus,” that is, a “receiver,” a machine which is used for the “testing and analysis of digital RF communications systems.” (See page 1, lines 5-6.) See *In re Nuijten*, 500 F.3d 1346 (Fed. Cir. 2007), footnote 7: A “digital electronic circuit[] that perform[s] mathematical operations on [an] electrical signal[]” is a “specific machine.” (emphasis in original)

For this reason, claim 9 falls within one of the four statutory categories of invention. Accordingly, Applicant requests that the rejection of claim 9 under 35 U.S.C. § 101 be withdrawn.

Claims 10-14 are allowable because they depend from claim 9, which is allowable as discussed above. Accordingly, Applicant requests that the rejection of claims 10-14 under 35 U.S.C. § 101 be withdrawn.

Rejection of Claims 2 and 9 under 35 U.S.C. § 103(a)

The Examiner rejected claims 2 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Takao in view of the APA.

Applicant respectfully traverses on the ground that the Examiner’s proposed combination of Takao and the APA does not describe Applicant’s claimed invention, specifically because the Examiner has failed to properly ascertain the scope and content of Takao.

The Examiner asserts that Takao’s Figure 35 describes every element of claim 2 except “means for displaying the pseudo-symbols on a quadrature coordinate plane.” Specifically, the Examiner asserts that:

1) Applicant’s “means for deriving quadrature component signals and a symbol clock from the modulated signal” is described by Takao’s Clock Timing Recovery Circuit 5j, where the Examiner considers Takao’s “IF Signal” to be equivalent to Applicant’s “modulated signal,” considers the outputs of Takao’s quadrature detector 1 to be equivalent to Applicant’s “quadrature component signals,” and considers Takao’s signal t0 to be equivalent to Applicant’s “symbol clock.” Given that the Examiner considers Takao’s “IF Signal” to be equivalent to Applicant’s “modulated signal” and considers Takao’s signal t0 to be equivalent to Applicant’s “symbol clock,” Applicant notes that the Examiner must also have meant to assert that Takao’s quadrature detector 1 and Takao’s A/D converters 2 and 3 are part of the “means for deriving . . . a symbol clock.”

2) Applicant's "means for generating a sample clock having a period equal to the symbol clock, the sample clock being shifted one-half period in phase with respect to the symbol clock" is described by Takao's phase delay circuits 51 and 52, where the Examiner considers the outputs of the phase delay circuits 51 and 52 to be equivalent to Applicant's "sample clock."

3) Applicant's "means for sampling the quadrature component signals with the sample clock to produce pseudo-symbols as pairs of pseudo-symbols about a symbol sample point for each symbol" is described by Takao's A/D converters 2 and 3, where the Examiner considers the outputs of the A/D converters, i.e., the signals I and Q, to be equivalent to Applicant's "pseudo-symbols."

Applicant respectfully asserts that the Examiner's interpretation of Takao is improper because the Examiner uses Takao's A/D converters 2 and 3 both to describe Applicant's "means for deriving . . . a symbol clock . . ." and to describe Applicant's "means for sampling the quadrature component signals . . ." (underlined above). However, they cannot be used to satisfy both claim limitations.

Put another way, under the Examiner's interpretation, Takao's "symbol clock" (the signal t_0) is not derived from the "modulated signal" (the outputs of Takao's quadrature detector 1), rather it is derived from Takao's "pseudo-symbols" (the signals I and Q). Alternatively, if the Examiner takes the view that Takao's A/D converters 2 and 3 are part of Takao's "means for deriving . . . a symbol clock . . .," then Takao cannot describe "means for sampling the quadrature component signals . . ."

Nothing in the APA remedies this deficiency in the Examiner's interpretation of Takao.

For this reason and all the other reasons set forth in Applicant's previous responses, Applicant reiterates that no combination of the APA and Takao describes Applicant's claimed invention. Accordingly, Applicant requests that the rejection of claims 2 and 9 under 35 U.S.C. § 103(a) be withdrawn.

Rejection of Claims 3 and 10 under 35 U.S.C. § 103(a)

The Examiner rejected claims 3 and 10 under 35 U.S.C. § 103(a) as being unpatentable over Takao in view of the APA and further in view of Touzni.

Claims 3 and 10 are allowable because they depend from claims 2 and 9 respectively, both of which are allowable for the reasons discussed above. Furthermore, the addition of Touzni

does not remedy any of the deficiencies of the Examiner's proposed combination regarding claims 2 and 9 discussed above.

For these reasons, claims 3 and 10 are not rendered obvious by Takao in view of the APA and further in view of Touzni. Accordingly, Applicant requests that the rejection of claims 3 and 10 under 35 U.S.C. § 103(a) be withdrawn.

Objection to Claims 4-7

The Examiner objected to claims 4-7 as being dependent upon a rejected base claim, but indicated that they would be allowable if rewritten into independent form including all of the limitations of the base claim and any intervening claims.

Applicant submits that claims 4-7 are allowable in their present form because they depend from claim 2, which is allowable for the reasons discussed above. Accordingly, Applicant requests that the objection to claims 4-7 be withdrawn.

Conclusion

In view of the foregoing remarks, allowance of claims 2-7 and 9-14 is urged, and such action and the issuance of this case are requested.

Respectfully submitted,

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